

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior listing of claims in this application.

Claims 1-12 (Canceled).

13. (Currently amended) A method of fabricating a semiconductor device, the method comprising:

depositing a dielectric film over an active region of a semiconductor substrate to form part of a gate of a transistor;

subjecting the dielectric film to a densifying treatment to stabilize said film by heating the semiconductor substrate at a first temperature; and

subjecting said stabilized dielectric film to a wet oxidation with steam process in a rapid thermal process chamber at a second temperature to raise the oxygen content of said stabilized dielectric film, said steam being carried to the chamber, wherein the first and second temperature of said chamber is from approximately 450°C to about 1050°C, wherein said film is subjected to said process for a duration of about 20 seconds to about 60 seconds, wherein the ratio of steam to other gases in the chamber is in the range from about 0.1 to about 0.5 and the pressure of said rapid thermal process chamber is held at about atmospheric pressure, and wherein said first temperature is greater than said second temperature.

14. (Previously presented) The method of claim 13 wherein the wet oxidation with steam process is performed at a temperature in the range of about 750°C to about 950°C.

Claim 15 (Canceled).

16. (Original) The method of claim 13 wherein depositing a dielectric film includes depositing a material having a dielectric constant of at least about 25.

17. (Original) The method of claim 13 wherein depositing a dielectric film includes depositing a material selected from the group consisting of tantalum oxide and silicon nitride.

Claims 18-41 (Canceled).

42. (Currently amended) A method of fabricating a semiconductor device, the method comprising:

depositing a dielectric film over a semiconductor substrate to form one of a gate and a capacitor dielectric; ~~and~~

subjecting the dielectric film to a densifying treatment to stabilize said film by heating the semiconductor substrate at a temperature greater than about 700°C; and

subjecting the dielectric film to a wet oxidation with steam process to raise the oxygen content of said dielectric film provided by heating a mixture of hydrogen and oxygen gases in a rapid thermal process chamber at a temperature greater than about 450°C, wherein said mixture is a ratio from 0.1 to approximately 0.80 of hydrogen gas to oxygen gas and combined in said rapid thermal process chamber, and said rapid thermal process chamber has a pressure of around 1 millitorr.

Claim 43 (Canceled).

44. (Currently amended) A method of fabricating a semiconductor device, the method comprising:

depositing a dielectric film over a semiconductor substrate to form part of a gate of a transistor;

subjecting the dielectric film to a wet oxidation with steam process in a rapid thermal process chamber at a first temperature; and

subjecting the dielectric film to a densifying treatment to stabilize said film at a second temperature, wherein said first temperature is less than said second temperature.

45. (Withdrawn) The method of claim 44, wherein said second temperature is approximately 750°C.

46. (Withdrawn) The method of claim 45, wherein said first temperature is approximately from about 500°C to about 700°C.

47. (Withdrawn) The method of claim 44, wherein said first temperature is approximately from about 500°C to about 700°C.

48. (Withdrawn) The method of claim 47, wherein said second temperature is greater than 700°C.